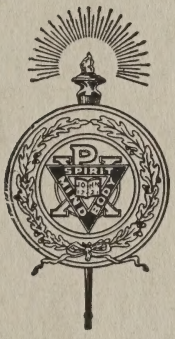
Young Men's Christian Association

DAY AND NIGHT SCHOOLS

Outline of Studies



Portland, Oregon

Introduction

THE Day and Night Schools of the Portland, Oregon, Young Men's Christian Association were founded by representative business men of the city to afford practical educational advantages to men and boys working for promotion, preparing for some special vocation, profession, entrance to some higher educational institution, or for those desiring to secure a liberal education while engaged in some vocational occupation.

The growth of these schools has been most noteworthy. Between one and two thousand different students are enrolled each season in the various courses, clearly indicating that a large demand is being successfully met.

The succeeding pages give a brief outline of the varied courses offered.

Different Students Attending Portland, Oregon, Young Men's Christian Association Day and Night Schools

Year.	No. Students.
1898-99	236
1899-90	294
1900-01	331
1901-02	336
1902-03	536
1903-04	672
1904-05	668
1905-06	602
1906-07	665
1907-08	864
1908-09	723
1909-10	603
1910-11	1004
1911-12	1323
1912-13	1424
1913-14	1506

Similar Schools

Y. M. C. A.

Seattle, Tacoma, Spokane, San Francisco, Oakland, Los Angeles.

Educational Committee of Management

E. B. MacNAUGHTON, Chairman

B. S. HUNTINGTON	H. G. RICE	G. F. JOHNSON
FLETCHER LINN	C. H. CHAPMAN	F. C. KNAPP
C. J. SMITH	J. B. WINSTANLEY	B. C. EWER

Faculty

ROBERT C. FRENCH, Educational Secretary.

L. L. HARTLEY, Principal Commercial School.

CHARLES N. REYNOLDS, Principal College Preparatory School.

LELAND S. BEVERIDGE, Principal Boys' Elementary School.

WALTER HAYNES, Principal Technical School.

ACCOUNTING ..... ESTES SNEDECOR, ARTHUR BERRIDGE

ADVERTISING .....

ALGEBRA .....C. R. HOLLOWAY

ASSAYING .....J. W. GRAHAM

ARCHITECTURAL DRAFTING.....LEE R. THOMAS

ARITHMETIC .....PAUL A. COWGILL

AUTOMOBILE ..... FRANK McDANIELS, C. R. PALMERTON

BIBLE STUDY.....R. E. RANDALL

BIOLOGY .....

BOOKKEEPING .....R. L. EDWARDS

BOYS' SCHOOL ..... L. S. BEVERIDGE, P. F. A. BOEHE

BUSINESS LETTER WRITING.....R. L. EDWARDS

BUSINESS LAW .....L. L. HARTLEY

CARPENTRY AND WOODTURNING.....K. S. MOORE

CHEMISTRY .....CHARLES N. REYNOLDS

COST ENGINEERING .....CHARLES BURTON

ELECTRICITY .....WALTER HAYNES

ENGLISH FOR FOREIGN MEN.....ALLEN W. O'CONNELL

ENGLISH, GRAMMAR AND READING....PAUL A. COWGILL

ENGLISH, GRAMMAR AND RHETORIC.....S. A. WOLD
ENGLISH LITERATURE .....HAROLD WARNER
FREEHAND DRAWING .....J. E. MURPHY
FRENCH .....V. B. DeLORY
GEOMETRY .....W. V. GREEN
GERMAN .....CHARLES N. REYNOLDS
HISTORY .....S. A. WOLD
LATIN .....CHARLES N. REYNOLDS
MACHINE DESIGN .....H. P. ANDREWS
MECHANICAL DRAFTING .....H. P. ANDREWS
PENMANSHIP .....L. L. HARTLEY
PHARMACY ..... A. G. BETTMAN, M. D.; JOHN CONNOLLY, M. D.; MURRAY LEVY
PHYSIOLOGY .....
PHYSICAL AND COMMERCIAL GEOGRAPHY.....S. A. WOLD
PHYSICS .....CHARLES N. REYNOLDS
PLAN READING AND ESTIMATING.....CHARLES BURTON
PUBLIC SPEAKING .....W. G. HARRINGTON
REINFORCED CONCRETE CONSTRUCTION...J. W. GRAHAM
SALESMANSHIP .....F. N. STURGES
SPANISH .....A. R. VEJAR
SHORTHAND .....W. S. HOLLIS
SURVEYING AND MAPPING .....J. W. GRAHAM
SHOW CARD WRITING .....W. H. BLEVINS
TELEGRAPHY AND DISPATCHING .....E. C. BELL
TRIGONOMETRY .....W. V. GREEN
TYPEWRITING .....W. S. HOLLIS
VOCAL MUSIC .....J. H. COWEN
WIRELESS TELEGRAPHY ..... R. K. FREEMAN; WALTER HAYNES

Educational Department

PORTLAND YOUNG MEN'S CHRISTIAN ASSOCIATION.

Organized on the University Plan. Day, Evening and Summer Schools from the Fifth Grade Grammar up to and including work qualifying for a College Degree.

I. School of Commerce and Finance Day and Evening Sessions	Offers not only all the subjects of a regular Business College, including Shorthand, Typewriting, Bookkeeping, Salesmanship, Advertising, Showcard Writing, but additional cultural courses. Prepares for business and admission to our School of Accountancy.
II. School of Accountancy Evening Sessions	Provides a 2½ years' course in preparation for the State Certified Public Accountants' examination, and the Science of Business Administration.
III. College Preparatory School Day and Evening Sessions	A thorough men's and boys' High School, fitting for Colleges, Universities, Medical, Dental and Technical Schools, Annapolis, West Point, Law Schools and the classified Civil Service.
IV. School of Electricity Day and Evening Sessions **V. School of Telegraphy**	Offers a three years' course in Applied Electricity and Engineering. Well-equipped shops and laboratories. In this Department is also offered courses in Wireless and Railroad Telegraphy.
VI. College of Pharmacy Day and Evening Sessions	Prepares for the State Board examinations.
VII. General English School Day and Evening Sessions	A school for men who desire special or individual instruction in English and the Common School subjects.
VIII. Boys' Elementary School Day and Evening Sessions	A Grammar School offering instruction in Fifth to Ninth Grades, including Manual Training, Applied Elementary Science, Vocational Guidance, Swimming Classes and Gymnasium Games. An ideal school for a boy.
IX. Automobile School	Deals with the construction, care and operation of all types of gasoline vehicles. Gives practice in repair of automobiles, use of lathe, drill press, shaper, forge. A good machine trade. This school is conducted in a large, well-equipped garage, including a working library, class room, tool room and work shop.

For further information concerning any of the above schools or special courses, address the Educational Secretary, Room 416, Y. M. C. A. Building, Portland, Ore. Telephones: Main 7065 and A-6561.

Portland Association Day and Night Schools

I. School of Commerce and Finance.
II. School of Accountancy.
III. College Preparatory School.
IV. School of Electrical Engineering.
V. School of Telegraphy.
VI. College of Pharmacy.
VII. General English School.
VIII. Boys' Elementary School.
IX. Automobile School.
X. Special Courses.
XI. Clubs and Lecture Courses.

General Information

Terms of Admission. No examination is required to secure admission to the Association Day and Night Schools. Any man who feels the need of growth and is willing to work for it, may become a member by paying the class fee. A membership fee of $5 or $12, according to privileges, will be charged all students who are not already Association members.

Registration. The office of the Educational Director (Room 416) is open every day and evening. Students may register at any time. It is a decided advantage to register before the opening of the term. Books and supplies required are furnished students at cost from the educational supply room.

Time. Class work is conducted on week days from 9:00 a. m. to 4:00 p. m. and from 7:30 p. m. to 9:30 p. m., and thus is within the reach of every employed man. The day work is especially designed for men who are employed at night, those who wish to prepare for special examinations, and for those who wish to devote their time exclusively to study. The night classes are arranged for those who work during the day.

I.

Y. M. C. A. Commercial School

BUSINESS OPPORTUNITIES FOR YOUNG MEN TODAY.

Wonderful development has taken place in the business world within the last decade. The commercially trained young man is more in demand today than ever before. This is due to the rapid development of business systems and modern manufacturing, which have called for the investment of millions of capital and made necessary the employment of thousands of specially trained business men.

This development has been more rapid in the Northwest, where business opportunities increase faster than the men who are trained for them. Probably in no other section of the country does opportunity beckon so alluringly to ambitious young men.

Manufacturing, importing, exporting and business activities of every kind are steadily increasing. This implies a constant call for trained and competent young men. Nowhere is there offered a better opportunity for a business training that will fit young men to cope with these great possibilities than is placed within their reach by the Commercial College of the Portland Young Men's Christian Association.

EQUIPMENT.

Few schools have the advantage of so excellent a location and so extensive an equipment as the Y. M. C. A. Commercial College. Not only is adequate provision made for the accommodation of the student in attractive class rooms, but there are also many facilities offered him which contribute to his culture and development. The central building, the home of the school, is among the most modern structures in the City of Portland. All the comforts and conveniences designed to appeal to young men, are at the disposal of the students. The rooms are in the pure atmosphere above the dust and noise of the streets; and facilities for sanitation, ventilation, heating and safety are the best.

A study and reference library room accommodates students and other members who desire a quiet and suitable place for study. In addition to the leading business, technical and popular magazines, our library contains over 1500 volumes embracing a wide range of subjects.

MANAGEMENT.

The Y. M. C. A. Commercial College is under the immediate supervision of a committee of professional and business men. They take a vital interest in furthering the work of this department and are responsible to the Board of Directors for its proper management and success.

COURSES OF STUDY.

BUSINESS COURSE—Day School.

(Includes)

Elementary Bookkeeping (Individual).
Wholesale Accounting (Partnership).
Cost Accounting (Corporation).
Commission Set (Corporation).
Banking (American National System).
Business Practice.
Office Practice.
Special Statement Drills.
Lumbering Set (Optional).
Farm Accounting (Optional).
Business Penmanship.
Business Arithmetic.
Business English.
Business Correspondence.
Rapid Calculation.
Commercial Law.
Salesmanship.
Spelling.
Adding Machine Practice.
Gymnastics, Athletics and Swimming.

SHORTHAND COURSE—Day School.

(Includes)

Shorthand.
Typewriting.
Commercial Law.
Business English.
Business Correspondence.
Penmanship.
Spelling.
Adding Machine Practice.
Tabulating and Filing.
Legal Forms.
Manifolding.
Punctuation.
Office Practice.
Billing.
Mimeographing.
Gymnastics, Athletics and Swimming.

PRIVATE SECRETARY'S COURSE—(Day School).

Includes

Elementary Bookkeeping.
Wholesale Accounting.
Cost Accounting.
Commission Accounting.
Banking.
Business Practice.
Office Practice.
Shorthand.
Typewriting.
Punctuation.
Billing.
Mimeographing.
Algebra (2 terms).
Geometry (2 terms).
Business Arithmetic.
Business Penmanship.
Business English.
Business Correspondence.
Commercial Law.
Spelling.
Rapid Calculation.
Salesmanship.
Machine Dictation.
English Grammar and Rhetoric (2 terms.)
Chemistry (2 terms).
Physics (2 terms).
Showcard Writing (2 terms).

TUITION—(Day School).

30 months	$165.00	18 months	$120.00
24 months	$145.00	15 months	$105.00

Ten per cent discount allowed for cash.

COMBINED COURSE—Day School.

The Combined Course consists of all subjects of the Business and Shorthand Courses.

BOOKKEEPING.

Elementary Set. The purpose of this set is to thoroughly acquaint the student with the principles of Journalizing in connection with a full and complete method of how to handle the Purchase Book, Sales Book, and Cash Book. From these four books, the student is shown the proper way to transfer all entries made in them to the ledger. Then, in turn, he is taught to classify the accounts in the ledger into two parts, one called Trading and Profit and Loss accounts, from which the net gain or net loss is determined, and the Financial Accounts which show the Resources and Liabilities. The student is taught a modern, systematic form of writing these up, which in itself is an art. From these two groups of accounts

he is taught to determine the Journal entries, to close his books and to use the proper method of ruling them. He is also shown two of the ways in which an inventory may be taken.

The Wholesale Set is next taken up with a view to learning the use of an Eight Column Cash Book, Four Column Journal, Bill Book, Purchase Book, Sales Return Book, Sales Rebate and Allowance Book, Abstract of Sales Sheet, also called Sales Recapitulation Sheet, and the posting of accounts from these books to the Ledger. The student uses the same form of analyzing and closing the accounts as in the Elementary Set, but is given another Statement, called the Technical form which is recognized by practicing accountants as the most complete method of presenting the condition of a business. This being a partnership, conducting a wholesale grocery business, it teaches the proper division of losses or gains among the proprietors, and how to treat withdrawals. Another excellent feature of this set is the instruction given in conducting a Branch House in connection with the Home Office.

Business Practice. This course of study and practice was prepared for our special use. It includes a thorough review of the principles already covered and some special practice in single entry. A certain amount of work must be done by the student each day, testing his ability to handle figures rapidly and accurately. Business is transacted directly with the offices and students, making the work identical with actual business. Business practice currency, merchandise cards, checks, notes, drafts, invoices, statements, deeds, mortgages, leases, bills of sale and other commercial papers are used in connection with the various transactions. Correct business discipline and habits of neatness are emphasized in these classes.

The Commission Set. This is a corporation business, dealing primarily with goods received to be sold on commission. It shows the student how to use a cash journal of twenty-two columns, sales book, account sales register, general ledger and the proper manner of handling all consignments and shipments.

Banking. This course familiarizes the student with the principles of modern banking. A study is made of the national bank act, powers of the national bank and its organization, capital required, securing subscriptions, organization, circulation, election and qualifiication of officers. The reading course closes with

special lessons devoted to savings banks, clearing houses, loan and trust companies, private banking, bank finance and railway finance. A practical banking set, designed after the most modern bank accounting methods is used. In writing up this work the student performs the duties of the various officers and clerks and becomes familiar with the following books: General cash book, paying teller's book, receiving teller's book, stock book, general ledger, individual ledger, discount register, collection register, remittance register, draft register, discount ticklers and bank statements.

Office Practice. As the title indicates, this course gives a thorough review and drill in mercantile bookkeeping, banking and the use of modern office books and appliances. The equipment for this work is complete and up-to-date. Many new books and rulings are introduced at this time. The highest quality of work will be required for a grade from this department. Business deportment, accuracy, neatness, prompt and systematic discharge of office duties, are factors in determining the student's qualifications.

Lumbering Set. (Optional.) While the transactions of this set are especially planned for the lumber business, the principles involved are no less applicable to every line of accounting. The purchase ledger, sales ledger, general ledger, journal, cash book, purchase journal, sales distribution book, notes receivable book, notes payable book, freight claim book, stock book and petty cash book are used. Methods used by government timber cruisers in estimating timber are also taught.

Corporation Accounting. (Voucher Method.) The purpose of this set is to show what a corporation is and how it is created; to give in concise form a correct idea of those accounts which belong peculiarly to corporation bookkeeping, and to illustrate several processes of closing the ledger of a corporation and of distributing corporation profits.

BUSINESS ARITHMETIC.

No person who is not a master of business arithmetic can expect to become a thorough accountant or even a fair bookkeeper. The student must understand the principles of this important subject before he can meet our requirements for graduation. This course covers properties of numbers, methods of proving work, aliquot parts, fractions, decimals, denominate numbers, percentage,

profit and loss, trade discount, commission, marking goods, interest, true discount, bank discount, partial payments, equation of accounts, cash balance, equation of account sales, stocks, bonds, insurance, taxes, custom house business, exchange, partnership, and other features which make it an interesting and practical subject.

BUSINESS LAW.

This course has to do with those features of law which every man should understand. Daily class recitations and lectures are used in our method of instruction, thus making it one of the most interesting and important subjects of a complete business course. The topics and subjects included in the course are: Contracts, negotiable paper, agency, bailments, partnerships, corporations, insurance, real property, courts and their jurisdictions, pleadings and practice, tender and payment and many other subjects with which every man, regardless of occupation, should be familiar, and a knowledge of which is absolutely necessary to the bookkeeper and accountant.

PENMANSHIP.

A plain business handwriting is one of the best recommendations a young man can have. It will do more to unlock the door to a good paying office position than any other accomplishment.

Our students are under the direction of an expert and progressive teacher who develops in each a plain and rapid handwriting that soon commands the respect of the business public by meeting its needs. Our classes in penmanship are open to both students of the Business and Shorthand departments without additional cost.

BUSINESS ENGLISH.

Special emphasis is placed upon the principles which bear directly upon the every day use of English. The course is especially arranged for commercial work, and is planned to give the student a thorough preparation for business letter writing and to meet the requirements of the modern business man.

BUSINESS CORRESPONDENCE.

This subject gives the student a comprehensive knowledge of letter writing suitable for all business purposes. Beginning with

the use of capitals, the course takes up punctuation, paragraphing, postal information and mechanical arrangement. In advanced matter a careful study is made of the construction of the business getting features of the letter as required under different conditions.

SALESMANSHIP—Day Course.

Salesmanship is not a vague, mysterious power, which only a favored few may possess, but its elementary principles are easily acquired by a careful study of the graded course of lessons we use. This class is given a prominent place in our Business Department.

ADDING MACHINE.

All Business and Shorthand students are given an opportunity to become familiar with a modern adding machine. Sufficient time and practice are allowed for the student to become an accurate and rapid operator.

RAPID CALCULATION.

This subject is adapted to the needs of every young man who is preparing for a position as bookkeeper, clerk, accountant or auditor. Short cuts are given in addition, subtraction, multiplication, division, discounts, marking goods, interest, etc., and special work in aliquot parts, proof work on addition, subtraction, multiplication, division, transposition and transplacement of numbers, illustrating the value of check figures.

SPELLING.

A misspelled word is frequently the difference between success and failure. Whatever other qualification one may have, the fact that he is a poor speller will be much to his disadvantage. A persistent effort is made to teach the student to spell correctly words ordinarily used in business.

GYMNASTICS AND SWIMMING.

Students will be given free physical examinations, and assigned, according to their needs, to class, group or club instruction in the regular or special classes of the physical training department. This gives all students the advantage of gymnastic exercise and instruc-

tion equaled by few schools anywhere. This course is required of all day students of the school unless excused for special reasons.

SHORTHAND.

In these days of commercial supremacy when the "survival of the fittest" is the test of success, not a few can bear witness that shorthand affords the best opportunity for business advancement. Aside from the salary the stenographer receives, he has opportunities to learn the details of a business, and to understand its policy and management that no other employe can enjoy.

System of Shorthand. We teach the Gregg system of shorthand, which experience has proved to be the easiest to learn and the simplest to write. This system has established and is maintaining a record surpassing all others for speed, legibility and simplicity. Our experience with the Gregg system has demonstrated conclusively that it is equal to all the requirements of the business man, the private secretary, and the court reporter.

Method of Instruction. Each student is given sufficient instruction, both class and individual, to master the subject matter. After he has learned to apply the principles underlying shorthand, a definite amount of written work is required. Every page of this work is examined and marked by a competent teacher and returned to the student for study or to be rewritten if necessary. By this plan the teacher is able to judge accurately the student's ability and can arrange such reviews and tests as may be advisable.

Shorthand Office Practice. This consists of actual office work and helps to bridge the gulf between inexperience and experience. It represents the finishing touches of the course. A definite amount of daily practice is given in shipping by freight and express, filing, letter writing, mimeographing, tabulating and making out checks, notes, drafts, deposit slips, statements, telegrams, leases, invoices, contracts, etc. This drill is complete and invaluable to any student taking a Complete Stenographic Course. A speed of 125 words per minute on new matter is required for graduation.

TYPEWRITING.

Touch typewriting, the most approved method, is taught in the Y. M. C. A. Commercial College. By using typewriters with blank keys and with the aid of charts, absolute mastery of the

keyboard is obtained and the operator learns to handle the machine just as a skillful musician plays the piano. Instruction in typewriting is largely individual, hence each student is enabled to advance as rapidly as his ability will permit. This department is fully equipped with the latest models of standard typewriters, and our students are taught not only how to operate but also how to take proper care of the machine they use. A speed of 40 words per minute from shorthand notes and 60 from dictation is required for graduation.

SPECIAL COMMERCIAL COURSES.

SHOWCARD WRITING.

All lines of business catering to the public patronage require showcards. This creates a vast field for experts in this line. The ordinary clerk with a practical knowledge of card-writing is always in demand at a much larger salary than he could otherwise command.

In the course offered in Showcard Writing, the student uses actual brush work and lettering practice from the start, under the individual instruction of an expert card-writer. The course is divided into four sections and includes the special lessons outlined. The color used, practice paper, and use of air brush are included in the cost of the course.

Section I. A word to the beginners. What to use; color mixing; brush handling; care of pens and brushes; preliminary practice strokes; rapid one-stroke lettering (both pen and brush).

Section II. Conventional alphabets, upper and lower case, and numerals; simple color combinations; practical arrangement and lay-out of ordinary inscriptions; price tickets; how to sell, and what to charge for cards.

Section III. Modern alphabet; upper and lower case, and numerals; ornamentation; color harmony; modern lay-out; the "tricks of the trade"; how to create and get business.

Section IV. Advanced lettering (advertising and commercial design styles); use and care of the fountain air brush; air brush lettering, shading, stencils, scrolls, designs and patterns; rapid method of attractive air brush ornamentation; how to make the

air pencil and use it for raised lettering; beveling; mat cutting; mounting panels; price ticket designs; how to save time and labor, and how to get the money for your knowledge and ability.

SALESMANSHIP—Night Course.

Since salesmanship is the basis of all business transactions, it is, therefore, of fundamental importance in the education of every business man; indeed, there is no walk of life in which knowledge of the principles of salesmanship and the ability to apply them are not both valuable and necessary.

The course consists of: (1) Lectures by different salesmen of recognized ability; (2) Class room recitations conducted by an instructor who is himself an expert salesman, and (3) Actual experience in demonstrating sales before the class, with criticisms by the class and instructor.

The following are some of the subjects of discussion taken up in this class and indicate the practical character of the course:

Personality in salesmanship.
How to study goods.
How to analyze the customer.
The way to secure trade.
How to gain an audience.
Attention; how secured and held.
How to arouse interest.
How to awaken desire.
Closing the deal.
The business letter.
Character an essential of a salesman.

ADVERTISING.

The advertising business today offers to the thoroughly trained man one of the most attractive openings in the commercial world. The course given in the Association School is not designed alone for the man who intends to make advertising his business, but for the business man as well who desires to acquire such a knowledge of the principles and methods of publicity as will enable him to direct his own advertising to the best advantage.

Instruction is given in three ways: (1) Through the class in fundamental principles of advertising; (2) Through prac-

tical work in writing advertisements; (3) Lectures by advertising specialists.

PUBLIC SPEAKING.

The purpose of this work as a business course is to train men in securing clear, distinct and forceful oral expression. This work is considered of such vital importance that two sessions of the class are held, thus giving opportunity for all to attend who may desire to do so. (See special folder for complete outline of this course.)

II. School of Accountancy

Progressive business corporations are beginning to realize that the Certified Public Accountant is much more than an expert bookkeeper, and that his services will help them increase the profits of their business.

No man of ability, if he has a taste for this work, need fear making a mistake by preparing himself to become a Certified Public Accountant. The ordinary bookkeeper or ledger clerk need not remain such when by extra work for a few hours each evening he can pursue a line of study that, in a comparatively short time, will very materially increase his earning capacity and place him in a position of influence and responsibility.

The expansion of accountancy in recent years is due not only to an increase in business, but to the increasing recognition of the value of the accountant's services, particularly in connection with the popular demand for more publicity and uniformity regarding corporations, trusts and public service companies, together with the regulation of accounting methods by national and state laws.

The outlined course of instruction that we teach is recognized throughout this country by both accountants and attorneys as one of the most thorough and complete ever published.

Men of recognized ability as practicing accountants and attorneys have direct charge of all class room instruction and special lectures. For full particulars regarding the Accountancy Course, send for special catalog giving all details of the work, faculty, cost and time.

III. College Preparatory and Secondary School

In this department of the educational work of the Young Men's Christian Association are taught the subjects required for entrance to colleges, state universities and other higher educational institutions. Two, complete, four-year courses are offered: one for men who are looking forward to the degree of bachelor of arts, and one for those who wish to prepare for higher instruction leading to the degree of bachelor of science.

As in other departments of our educational work, men are given much individual instruction, thus enabling them to progress more rapidly than otherwise. Our facilities are the best that could be wished for: beautiful building, good library and reading room, excellent laboratories, strong college graduate instructors, physical department privileges, and a wholesome, moral environment. Under these conditions, we have prepared students who have successfully entered Harvard University, Boston Institute of Technology, and universities of the Pacific Coast.

REQUIREMENTS FOR ADMISSION.

Any young man may be admitted to the College Preparatory Department by presenting his certificate showing that he has satisfactorily passed common school subjects, or by showing ability to carry the work of this department.

GRADUATION.

On completion of any course of study, as outlined on pages 19 and 20, the student is given a diploma which is accepted in lieu of entrance examinations by state universities and colleges.

LITERARY SOCIETY.

The students of the College Preparatory Department maintain a well organized literary club. Meetings are held bi-monthly for parliamentary practice and work in declamation and debate. The

ability to hold an audience, as well as to present, logically and definitely, points in support of a question for debate can be secured to good advantage through the literary club.

LABORATORIES.

The physical and chemical laboratories are well equipped for work in these subjects. A fee of $2.50 is required to be deposited to cover breakage and use of materials in the course in chemistry. Special lockers are provided for the necessary apparatus for each student. The above fee, less breakage, is returned to the student at the close of the course.

PHYSICAL PRIVILEGES.

Each student is required to be a member of the Association. Regular work in the gymnasium under expert physical instructors is a valuable feature of the educational courses. Special classes are provided to meet the needs of the students in this department.

College Preparatory
Literary Course

Time	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	1st Term	2d Term	3d Term	4th Term	5th Term	6th Term	7th Term	8th Term
Mathematics	Algebra	Algebra	Algebra	Plane Geometry	Plane Geometry			Bookkeeping
History	Oriental Greek	Roman	Medieval and Modern	Medieval and Modern	English	American	Civics	
Science			Physical Geography	Physiology and Hygiene	Chemistry	Chemistry	Physics	Physics
English	Grammar Rhet. & Comp. Literature	Grammar Rhet. & Comp. Literature	Grammar Rhet. & Comp. Literature	Grammar Rhet.& Comp Literature	American Literature Composition	American Literature Composition	English Literature Composition	English Literature Composition
Languages	Latin Grammar Composition	Latin Grammar Composition	Caesar Composition	Caesar Composition	German Grammar Composition Conversation	German Grammar Composition Conversation	German Grammar Literature	German Grammar Literature

College Preparatory
Scientific Course

Time	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	1st Term	2nd Term	3rd Term	4th Term	5th Term	6th Term	7th Term	8th Term
Mathematics	Algebra	Algebra	Algebra	Plane Geometry	Plane Geometry	Solid Geometry	College Algebra	Trigonometry
History	Oriental Greek	Roman	Medieval and Modern	English	Civics	American		
Science	Physical Geography	Botany	Bookkeeping	Physiology Hygiene Drafting	Chemistry	Chemistry	Physics	Physics
English	Grammar Rhet. & Comp. Literature	Grammar Rhet. & Comp. Literature	Grammar Rhet. & Comp. Literature	Grammar Rhet. & Comp. Literature			English Literature	English Literature
Language					German Grammar Composition Conversation	German Grammar Composition Conversation	German Grammar Literature	German Grammar Literature

MATHEMATICS.

A. Algebra.

I. First Term to Fractions.—Introduction to algebraic expressions; the four fundamental operations; simple numerical equations and solution of problems of one unknown quantity; special methods of multiplication and division; factoring, determination of highest common factor and lowest common multiple by factoring.

II. Second Term to Quadratics.—Fractions, including complex fractions; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations; simultaneous linear equations; graphical representation of linear equation; involution of linear equation; involution and evolution; theory of exponents, positive and negative; surds and imaginary quantities.

III. Third Term Elementary Algebra Completed.—Quadratic equations, both numerical and literal; solution of problems involving quadratics; graphical representation of quadratic expressions; simultaneous quadratic equations; ratio and proportion; variation; progressions; binomial theorem.

B. Geometry.

I. Fourth Term to Book III.—Definitions; the usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; loci of points, the circle and measurement of angles.

II. Fifth Term, Plane Geometry Completed.—Proportion; similar polygons; areas; regular polygons and the measurement of the circle; numerous problems of original construction.

III. Sixth Term, Solid Geometry.—Definitions; the usual theorems and constructions of good text-books, including the relations of planes and lines in space; the properties and mensurations of prisms, pyramids, cylinders and cones; the sphere and the spherical triangle; the solution of numerous original exercises.

C. College Algebra.

I. Seventh Term.—Quadratic equations; arithmetical, geometrical and harmonical progressions; the binomial theorem; logarithms and exponential equations; properties of series and the

development of simple functions into series; permutations and combinations; continued fractions; introduction to the theory of equations.

D. Trigonometry.

I. Eighth Term, Plane Trigonometry.—Elements of plane trigonometry; trigonometric formulae; solution of right triangles; function of one angle; functions of any angle; trigonometric equations; oblique triangles; problems in general.

SCIENCE.

A. Physical Geography.

I. Third Term, Hopkin's Physical Geography Completed.—The study of the earth as a planet; rivers, plains and mountains; volcanoes, earthquakes and glaciers; lakes, the ocean and coasts; atmospheric phenomena and climate; special physiographical study of the United States; distribution of plants and animals; man and nature.

B. Physiology and Hygiene.

I. Fourth Term.—It is the purpose of this special course to acquaint the student with the results of physiological research from which are derived the laws of health and the guides to successful living. The study of the laws of health, personal hygiene, first aid and special reading and lectures are given emphasis.

C. Chemistry.

I. Fifth Term.—Physical and chemical changes; oxygen; hydrogen; properties of water; nitrogen; atomic theory; symbols and formulae; acids, bases and salts; equivalents; light, heat; electrical and chemical action; chlorine and hydrochloric acid; nitrogen compounds; gases; carbon; the flame; laboratory practice based upon the subject matter.

II. Sixth Term.—Fluorine, bromine and iodine; sulphur; silicon; phosporus and arsenic; sodium and potassium; copper, lead and tin; iron; nickel and cobalt; platinum; periodic law; organic compounds; laboratory experiments accompanying work.

D. Physics.

I. Seventh Term.—Measurement; force and motion; pressure in liquids and in air; molecular motion and forces; thermometry; work, mechanical energy and heat energy; change of state; heat transference; laboratory work co-ordinate with the subject matter covered.

II. Eighth Term.—Magnetism; static electricity; electricity in motion and its effect; nature and transmission of sound; musical sounds; nature and propagation of light; images; color phenomena; radiations of invisible nature; laboratory practice based upon the subject matter.

E. Drafting.

I. Fourth Term.—Drawing instruments, their use and care; plain lettering; elementary projections of points, lines, surfaces and solids; isometric projections; simple working drawings; shadings; section lining; blue prints.

HISTORY.

A. Ancient History.

I. First Term.—Oriental nations, Greece. Races of mankind and their distribution; early kingdoms and their development; Egyptians, Persians and Chinese; Greece—the country, growth, manners and customs, education and art.

II. Second Term.—Rome—the country, growth, manners, customs, and jurisprudence.

III. Third Term.—Medieval and Modern.

B. English History.

I. Fifth Term.—English History—Coman and Kendall's text completed.

C. American History.

I. Sixth Term.—Hart's text completed. This course covers the regular secondary work done in the study of our nation and its people. The laboratory method is followed in the teaching of this subject as well as in the teaching of the sciences. Reports from pupils on specially assigned topics constitute a valuable part of this course.

D. Civics.

I. Seventh Term.—The course covers the following: Government, its origin, necessity, object and functions; forms of government; early governments in the United States; the constitution; legislative, executive and judicial departments; the states, the bill of rights; the unwritten constitution; state, local and municipal government; American politics; international law; municipal law; reports by students.

LANGUAGES.

A. Latin.

I. First Term.—Hale's First Latin Book to page 120. Pronunciation, grammatical accuracy and familiarity with principles is essential. The topics covered for the first term are the four conjugations, three declentions of nouns and adjectives, participles, translation of Latin sentences into good English and English into Latin, and Latin composition.

II. Second Term.—Hale's First Latin Book completed. Ablative absolute, subjunctive mode; fourth and fifth declentions; infinitives; the gerund and gerundive; irregular verbs, comparison; translation of easy Latin stories into English and Latin composition.

III. Third Term.—Caesar's Gallic War. Review Latin Grammar in connection with reading of Caesar's Gallic War. Special care in derivation of English words as taken from the Latin.

IV. Fourth Term.—Two books of Caesar's Gallic War. Latin Grammar reviewed; study of Latin idioms; sight reading and translation; Latin composition.

B. German.

I. Fifth Term.—Joynes Meisner's Grammar; Huss' German Reader. Careful drill in pronunciation; declentions and conjugations; translation of German sentences into good English; translation of ordinary English sentences into good German; memorizing and frequent repetition of easy colloquial expressions, selections from German Reader.

II. Sixth Term.—Joynes Meisner's Grammar; Huss' German Reader completed; Classics. Continuation of rudiments of grammar, syntax and word German Idiom. Conversational German and

easy translation of German into English. Reading and translation of "Immensee," selections from German Reader.

III. Seventh Term.—German Grammar; Classics. Advanced Grammar and composition; conversational German; reading and translation of "Hoher Als Die Kirche," "L'Arrabbiata" and "Das Edle Blut."

IV. Eighth Term.—German Grammar; Classics. Grammar and composition; colloquial German; reading and translation of "Minna Von Barnhelm," "Wilhelm Tell."

Spanish. The work comprises a study of the elements of the language, conversation, reading and writing, fitting the student to translate commercial correspondence.

French. A full two years' course is given in this subject covering college entrance requirements.

ENGLISH.

A. Grammar, Rhetoric and Composition; Classics.

I. First Term.—

a. Grammar. Review parts of speech; analysis of simple sentences with application to the construction of sentences in composition.

b. Rhetoric. Composition, oral and written; what to write about; building a theme; paragraphing; building sentences.

c. Composition. Narration; reproduction of simple accounts of incidents within the pupil's experience. Written work on text matter is to be presented for correction and returned to pupil for rewriting. Oral reports on home reading.

d. Classics—

(1) Books for general reading and composition work.
Dickens: A Tale of Two Cities.
Shakespeare: Julius Caesar.

(2) Books for thorough study.
Shakespeare: Merchant of Venice.
Whittier: Snowbound and Other Poems.

II. Second Term.—

a. Grammar. Analysis complex and compound sentences; use of connectives.

b. Rhetoric. How to increase vocabulary; punctuation; letter writing; good use; barbarism; improprieties; figures of speech.

c. Composition. Letter writing description; short themes; oral reports on classics read at home.

d. Classics—

(1) Books for general reading and composition work.
Goldsmith: Vicar of Wakefield.
Scott: Ivanhoe.

(2) Books for study in class.
Franklin: Autobiography.
Macaulay: Lays of Ancient Rome.

III. Third Term.—

a. Grammar. Functions of phrases and clauses; infinitives and participles; conjugation, voices, moods and tenses of verbs.

b. Rhetoric. Good use in sentences; idiom and translation of English; words of English language; choice of words. Rhetorical principles; unity, coherence and force in sentences.

c. Composition. Description and narration; short themes; oral reports on home reading.

d. Classics—

(1) Books for general reading and composition.
Blackmore: Lorna Doone.
Stevenson: Treasure Island.

(2) Books for study in class.
Coleridge: The Ancient Mariner.
DeQuincy: Joan of Arc.

IV. Fourth Term.—

a. Grammar. General review of principles of grammar.

b. Rhetoric. Structure of single paragraph; structure of whole composition; kinds of composition; original compositions.

c. Composition. Narration with simple plot; short themes; oral reports on classics read at home.

d. Classics—

(1) Books for home reading.
Webster: Reply to Hayne.
Eliot: Silas Marner.

(2) Books for study in class.
Burke: Conciliation of America.
Webster: First Bunker Hill Oration.

B. American Literature and Composition.

I. Fifth Term.—

a. History American Literature—Colonial Period, to time of Longfellow.

b. Composition. Exposition; character sketching; themes of about 600 words; oral reports on classics read at home.

c. Classics—

(1) Books to be read outside of class.
Emerson: Friendship.
Hawthorne: Marble Fawn.

(2) Books for study in class.
Emerson: The American Scholar.
Lowell: Vision of Sir Launfal.

II. Sixth Term.—

a. History American Literature. Since the time of Longfellow.

b. Composition. Exposition; formal and informal essays; themes of 600 words or more; oral reports on classics read outside of class.

c Classics—

(1) Books to be read outside of class.
Riis: The Making of an American.
Longfellow: Courtship of Miles Standish.

(2) Books to be studied in class.
Macaulay: Essay on Milton.
Lincoln: Gettysburg, Inaugural and Other Speeches.

C. English Literature and Composition.

I. Seventh Term.—

a. History of English Literature—Long. To page 258.

b. Composition. Argumentation. Short thesis on popular questions for debate. Oral reports of classics read at home.

c. Classics—

(1) Books to be read outside of class.
Bunyan: Pilgrim's Progress.
Scott: Quentin Durward.

(2) Books to be studied in class.
Milton: Paradise Lost, I and II.
Carlyle: Essay on Burns.

II. Eighth Term.—

a. History of English Literature—Long's text completed.

b. Composition. Orations, tributes, responses to toasts. Thesis of good length. Reports on home reading.

c. Classics—

(1) Books to be read outside of class.
Howard Williams: Life of George Williams.
Harry Hicks: Life of Horace Rose.

(2) Books to be studied in class.
Wordsworth: Ode on Intimations of Immortality.
Shakespeare: Macbeth.

IV. School of Electricity

ELECTRICAL ENGINEERING.

Laboratory Equipment. The Electrical Laboratory is amply supplied with all modern equipment. This equipment is used exclusively for instructional purposes and includes the following machinery for laboratory tests and experimentation:

One 10 K. W. rotary converter; one 10 K. W. polyphase generator; five compound and shunt dynamos in capacities ranging up to 15 K. W.; fifteen transformers of various ratings and capacities, including one 7½ K. W. 200,000 volt testing transformer; one oscillograph; one 5 K. W. dynamotor; two static machines; a complete line of portable voltmeters, ammeters and wattmeters, in addition to a double current generator switch-board fully equipped with all types of A. C. and D. C. instruments.

The laboratory is well supplied with many small devices for illustrating the basic laws of electricity and magnetism.

The equipment also includes one complete modern Wireless Station of 5 K. W. capacity.

ELECTRICAL COURSE.

Electricity and Magnetism. The first year's work includes a course in electricity and magnetism. This course covers the following subjects: Theory of magnetism; magnetic and electro-magnetic induction; voltaic electricity; electrolysis; electric circuits and their resistances; galvanometers; electro-magnets and their application to measuring instruments; elementary theory of electrical work and power; electrodynamics.

The first year's work concludes with a brief introduction to the working principles of induction coils, direct current machines and electric wiring.

Text: "Lessons in Practical Electricity."—Swoop.

Electrical Course

Time	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR OR GRADUATE COURSE
	1st Term	2nd Term	1st Term	2nd Term	1st Term	2nd Term	
Mathematics	Algebra	Algebra Geometry	Trigonometry	Analytical Geometry Elementary Calculus	Theoretical Mechanics	Theoretical Mechanics	A special course is offered for students desiring to pursue particular lines of investigation of Electrical work. This course is open to students who have completed the regular three year course.
Electricity	Electricity and Magnetism	Electricity and Magnetism	Direct Current Machinery	Direct Current Machinery	Alternating Current Machinery	Alternating Current Machinery	
Sciences	Drafting Descriptive Geometry	Drafting Descriptive Geometry	Physics	Physics	Chemistry	Chemistry	
English	Grammar and Composition	Grammar and Composition	English Comp. Rhetoric and Literature	English Comp. Rhetoric and Literature	Scientific Literature	Scientific Literature	

NOTE—One elective subject may be chosen each term from any course in Commercial or College Preparatory School.

Direct Current Machinery. This course introduces the student to all commercial direct current apparatus and is taken up under the following special heads:

The fundamental basis of the C. G. S. system of units; the theoretical development of the the dynamo; the study of dynamo efficiencies; practical operation of dynamos; storage battery systems; electrical distribution of power; an advanced course in the magnetization of iron and armature windings (each student is required to wind at least one armature).

Text: "Elements of Electrical Engineering—Direct Current." —Franklin & Estey.

During the year students inspect the plants of local power companies, where modern electrical practice is exemplified.

Alternating Currents. This course is intended to acquaint the student with all types of alternating current apparatus which are used in modern electrical engineering practice, and includes the following subjects: The elementary and advanced theories of alternating current dynamos; harmonic E. M. F.'s and currents; the use of the complex quantity; synchronous, induction and repulsion motors; conversion of alternating and direct current; transformers and their connections; single-phase motors; alternating currents and instruments.

The class is given a thorough treatment of transmission lines; inductance, capacity and single-phase series motors. During the course students inspect power houses and substations, many of which are to be found in the vicinity of Portland.

Text: "Elements of Electrical Engineering—Alternating Currents."—Franklin & Estey.

MATHEMATICS.

Algebra. The student begins with elementary algebra, taking up the use of symbols for representing quantities; algebraic operations; the equation; factoring and solution of equations by factoring; fractions; graphical representation; square and cube roots; quadratic equations and graphs of quadratic equation in two variables.

Text: "First Course in Algebra."—Hawkes, Luby, Touton.

Descriptive Geometry. This course is intended to cover the practical mechanical expression of lines, planes and surfaces and their relationship to one another. The course is largely worked

out in the drafting room, mechanical drawing instruments being used in the solution of all problems. The student is required to work about four hundred problems covering projections on points, lines and planes, sections of solids, projections of plane figures; isometric and horizontal projections; development and projection of screw threads; intersections of surfaces; projection of shadows; theory of perspective and contour drawing.

Text: "Practical Solid or Descriptive Geometry."—Low.

Trigonometry. The work covered in this course is intended to prepare the student to handle the more advanced work in courses to follow. The work taken up includes:

Trigonometric functions of acute angles; solutions of the right triangle; functions of angles of any magnitude; functions of the sum or difference of two angles; the solution of oblique triangles, and the use of logarithms; slide-rule.

Text: "Plane Trigonometry and Tables."—Wentworth.

Calculus. This is a combination course covering analytical geometry, differential and integral calculus.

The work is begun with a study of special angles; the use of rectangular co-ordinates; slope and areas of plane figures; equations conforming to imposed conditions; graphic solutions of simultaneous equations; differentiation, taking up the theory of a derivative and differentiation of all expressions usually met in engineering practice; maxima, minima and rates; integration of standard elementary forms; constants of integration; areas of plane figures and volumes by integration.

Text: "Elementary Analysis."—Smith & Granville.

Theoretical Mechanics. The object of this course is to give the student that theoretical knowledge which will enable him to compute stresses and strains upon various materials as used in engineering practice. The course covers the following subjects: force and the laws of motion; statics of systems of particles and rigid bodies; center of gravity for plane areas and volumes; motion of a particle under constant and variable forces; motion of rigid bodies.

Calculus is a prerequisite for taking this course.

Text: "Theoretical Mechanics."—Jeans.

SCIENCES.

Physics: This course is the usual high school course in physics, covering: pressures in liquids and gases; molecular forces and mo-

tion; mechanical work and energy; transformation of energy; elementary electricity and magnetism; properties of musical sound and the transmission of sound; nature and propagation of light, including X-rays and color phenomena, and a study of lenses as used in everyday optics.

Text: "First Course in Physics."—Millikan & Gale.

Chemistry. This course is the usual high school course in inorganic chemistry and includes the following: distinction between chemical and physical changes; general properties of water; atomic theory; chemical symbols; atomic and molecular weights; carbon and its oxides. A thorough study of the properties of all the important elements is made in the order of their importance. A brief study of the periodic law and spectrum analysis completes the course.

Text: "Descriptive Chemistry."—Newell.

Drafting. The work in drafting for Electrical Engineering students includes a brief course in lettering and linear drawing. Sixteen plates are required, three of which must be traced and blue prints made from tracings. The plates serve the double purpose of giving the student practice in drafting, as well as providing reference data. The plates include more or less complex wiring diagrams and machine connections used in commercial practice. At the close of the course the student is required to make one plate giving the details of some complicated machine, having only the machine to work from.

SCIENTIFIC LITERATURE.

This course is designed primarily to meet the needs of advanced engineering students and of young engineers in actual practice. Criticism of the weakness in English of many of our technical graduates is wide-spread; and professional men agree that technical schools must in some way send young men out better equipped to meet the requirements of technical writing.

This course pre-supposes ordinary high school English. The subject matter covered includes preparation of engineering papers, technical abbreviations, punctuation, business letters, letters of application, letters giving instructions, circular letters, series of letters, reports on engineering tests, reports on inspection of work,

editorial articles, summaries and abstracts, and explanations of new inventions.

Text: "Hand Book of English for Engineers."—Sypherd.

V. School of Telegraphy

WIRELESS TELEGRAPHY.

The Association has recently added a School of Wireless Telegraphy. The work includes a course in electrical engineering, in which the student is given the fundamentals and practical machine work essential to his success as a first class wireless operator; a short course in mathematics, sufficient to enable him to handle the theoretical part of wireless practice, sufficient English to meet commercial requirements is also given such students as are found to have need for it.

The wireless laboratory contains keys and phones for eighteen students. These phones and keys are inter-wired so that students may work individually or together in groups, according to their ability to handle the code. The commercial equipment of the station consists of a modern 5 K. W. set with all up-to-date methods of tuning and varying transmitted wave lengths.

Recently the Government has set the requirement for first and second class licenses considerably higher than formerly. This means that men must be better prepared than in the past and that wireless work will become more of a profession than was the case when anyone who had mastered the code could secure a license.

Text: "Manual of Wireless Telegraphy."—Robinson.

Telegraphy. This course is especially designed to make efficient operators and railroad office men. It includes a study of the principles of telegraphy, main line circuits, train orders, Morse code, transmitter, construction and operation of sounders, and the operation of trains over a train wire. A service wire of the Harriman lines passes through the class room, thus affording opportunity for actual business experience to the members of the class.

VI. College of Pharmacy

Pharmacy. The College of Pharmacy was organized for the special instruction of young men who are making preparation for State Board examinations in pharmacy. Such instruction is given in materia medica, toxicology, botany, chemistry, general pharmacy, identification of drugs, as will cover all requirements of these examinations. This school is individually incorporated under the laws of Oregon and its diploma entitles the holder to the degree of Ph. G.

VII. General English School

This school having both day and evening sessions is organized for men who desire individual or class instruction in the elementary English branches.

Hours for instruction for men who are unable to attend full sessions can usually be arranged to meet the convenience of the student.

English for Foreign Men. Hundreds of men from almost every nationality in Europe and Asia have learned to speak, read and write the English language in the Association Schools during the past few years.

Great care is taken in the selection of teachers for these courses. The classes are limited in the number of students assigned to each teacher, so that each student has much opportunity for individual instruction. Sessions of this school are held both day and evening.

VIII. Boys' Elementary School

The Boys' Day and Night School of the Portland Young Men's Christian Association is one of the important features of the Educational Department. Its aim is to fit boys for efficient manhood, and its method is to give special attention to the needs of the individual student.

The course of instruction includes the essential studies from the Fifth Grade to the High School, and embraces the following subjects:

Grade Subjects.	Vocational Subjects	Special Subjects
Arithmetic	Bookkeeping	First Aid
Spelling	Carpentry	Current Events
Grammar	Electricity	Social Training
Reading	Drafting	Gymnastics
Penmanship	Industries	Bible Study
History	Science	Physiology and Hygiene
Geography		
Literature		
German		

Three divisions of this school are made with reference to needs of individual boys, as follows:

Day School. Nine months, September-June.

In the Day School, instruction is given for boys who can give their entire time to study or who wish to work a part of the afternoon and evening. This school furnishes especially good opportunities for boys who desire to study vocational or trade subjects, or who through individual instruction are able to make more rapid advancement than is possible in large classes.

Night School. Eight months, September-May.

The Night School is for boys who are employed during the day. In it are taught the fundamentals of the grammar school course with special reference to the industrial and vocational needs of boys.

Vacation School. Six weeks, July-August.

This school offers boys who are deficient in their studies an opportunity to make up their work. It also affords opportunity

for ambitious students to take up new work and secure advanced standing in their classes. Numerous out-of-door sports and trips constitute an important part of the summer session.

While a boy will not take all the subjects outlined in one year, he may choose, under the guidance of teachers and parents, a course from the above, having a definite purpose, either higher educational work, trade, business or profession; but the essential subjects will find a place in every course. German classes are conducted for beginners and second year pupils. The fundamental principles of the German language are taught by an expert, with drill in conversation, reading and idiomatic constructions. German is very readily acquired by boys of elementary school age and is of special benefit to those who are looking forward to a higher education, or as an aid to the study of English.

The lessons in penmanship are under the direct supervision of a trained specialist, and the boys are given movements and drill that will result in the formation of a correct style of writing.

Bookkeeping and office practice are taught twice each week throughout the year. The object of this course is to lead each boy to keep a correct personal account and to start life on a business basis.

For the boy looking toward a technical education, a knowledge of drafting is indispensable. This course, which is given in a practical manner, applies the principles of the daily arithmetic lesson, and includes the working drawings used in carpentry and woodworking classes and thus combines theory and practice in an efficient and practical way.

The course in carpentry is correlated with the course in drafting, and is a systematic training in the use of hand and machine tools, joining, surfacing, fitting, building, constructing and original designing.

Elementary science is taught in a well-equipped laboratory, and involves a series of 50 to 100 experiments with reading, illustrations by the instructor and notes. This is a very valuable course and is alone worth more than the cost of the year's schooling.

As every boy has sooner or later to choose a calling in life, he should be gathering ideas of the chief industries of the city in which he is to play his part. The frequent trips for personal observation and study of the business and industrial life of the city, arranged by the Association, give boys correct ideas and awaken

ambition in them for the work for which they are particularly adapted.

One of the advantages of the Association School is the emphasis placed on physical education. Gymnasium games and training are conducted throughout the year, followed by swimming lessons, diving, water games and shower baths. Each boy is examined before entering the physical department and any physical defect needing attention is reported to his parents.

The courses of the different grade subjects have been carefully worked out to give the best possible results. Some special features are:

Individual Instruction, in which each boy is helped by a man who is his friend, and to whom the particular needs of the boy become a matter of personal interest.

Efficient Men Teachers who have a sympathetic interest in the boys they are teaching and in the work that is being carried on.

Wholesome and Attractive Surroundings that tend to bring out the best in the boy and to influence his life for good.

The end sought is not merely teaching lessons, not disciplining for the sake of discipline, or creating a system that boys must fit into, but the development of the character of the individual boy and his training for efficiency.

IX. Automobile School

Building and Equipment. This school occupies a separate building, 150x50 feet, containing a lecture room, office and library, a tool room, a large demonstrating room equipped with automobiles of various types for practice in dissecting and assembling, also for use in road lessons; a machine shop in which are installed a lathe, drill press, shaper and forge, used both for repairing automobiles and for teaching machine shop practice.

Courses. The course comprises three distinct lines of work: Class instruction, shop work and road practice. These courses may be taken both day and evening. A special short course is offered for owners and prospectitve purchasers.

LECTURE AND CLASS ROOM WORK.

1. Engine principles, combustion and formation of gases.
2. The four-stroke cycle, valves, cams and cam gears.
3. Two-cycle types in comparison with four cycles.
4. Carburetion, modern carbureters and their adjustment.
5. Electrical rules and explanations, as applied to ignition.
6. Ignition, batteries, spark coils, plugs, wiring and testing.
7. Magneto ignition and ignition troubles.
8. Cooling, air and water; pumps, fans, radiators, lubricators and lubrication.
9. The engine as a whole.
10. The "why" of transmission; sliding gear transmission.
11. Planetary transmission, bands, clutches, differential gears, bevel and spur.
12. Shaft or bevel gear drive, floating axle type, universal couplings.
13. Double and single drive chain, ball, roller and plain bearings, front axle, steering, gear and wheels.
14. Pneumatic and solid tires, care and proper method of removing and attaching.
15. Troubles likely to occur, with Diagnosis and Remedy.
16. Review.

SHOP WORK.

A thorough and systematic course of instruction is given in repair work co-ordinated with the lecture course. The students dissect, assemble and adjust the parts of the automobile until they are thoroughly familiar with the relation and function of all parts,

and are able to locate any trouble that may arise in operating. The classes are divided into small groups for shop work. Besides the permanent equipment of the shop the school takes in much outside repair work. This work is done under the close supervision of skilled instructors and mechanics. This feature of the work is especially valuable to men training for positions as chauffeurs or repair men.

The complete day course of three months is given from 8 to 12 a. m. and from 1 to 5 p. m. daily, except Saturday afternoon. The evening course is given from 7:00 to 9:30 p. m.

Road practice consists of individual driving of automobiles owned by the School, first in the residence district and later on more crowded streets. These lessons are given near the end of the course.

Tuition Fees. A fee of $61 is charged for the complete course. This rate includes regular Association membership privileges for six months.

GAS ENGINES.

This course is designed to fit men for running motor boats, mining engines, lumber donkeys, or any variety of gas engine. It is designed especially for mechanics who wish to get a working knowledge of the gas engine, for agents and salesmen, or owners of engines who wish to become proficient in the operation and making of minor repairs of gas engines.

This course will be given in the automobile garage, where an extensive equipment is available for the use of the class.

MACHINE SHOP PRACTICE.

The equipment and teaching staff of the Automobile School afford an opportunity for those who wish an elementary course in machine shop practice.

A student can not hope to develop marked skill in the short time afforded for this work. The course is recommended for marine, stationary and gas engineers who are not already machinists.

Such shop practice as chipping, filing, broaching, scraping, drilling, tapping, grinding, turning, facing, cutting threads, boring machine, lining and shafting is given.

Special Courses

Bible Study. Systematic graded courses in Bible Study for the students of the Day and Night Schools have been arranged by the

Association management with the thought in mind that the student of the Bible, like the student in arithmetic or history, should be able to look back a month or a year and trace steps of distinct progress. The general plan and scheme outlined by the Bible Study Committee of this Association will be the basis of instruction.

Freehand Drawing, Elementary, will include drawing from models, objects, cast and nature and from details of historic ornament. Outline and shaded drawing of figures and forms, lectures and problems in perspective.

Freehand Drawing, Advanced. Advanced work in light and shade from ornaments, casts and from the head, also from figures, charcoal and other mediums. Special work is arranged for students judged to be sufficiently advanced.

MECHANICAL DRAWING—ELEMENTARY.

The subjects for study in this course are drawing materials, their use and care, drawing geometrical solids, working drawings of simple objects with dimensions, development of surfaces, screw threads, bolts and nuts, working drawings of machine details, full size and to scale, pulleys, clamps, wrenches, couplings.

MECHANICAL DRAWING—ADVANCED.

Working drawings of machine details with dimensions, valves, shafting, etc., full set of working drawings of a complete simple machine, tracings and blue prints. All students in mechanical drawing courses should take algebra or geometry unless they have completed these subjects.

Architectural Drawing. This course is designed to teach the method of drawing important architectural forms and relating them to the building of which they form a part, also to teach the planning and compostion of buildings. After familiarity has been acquired with elementary forms, a series of problems in architectural design of gradually increasing difficulty is given. This form is followed by drawing from specifications.

Instruction is individual and each student is advanced as rapidly as he can produce the work.

SURVEYING AND MAPPING.

In view of the large amount of railroad and other engineering construction now being carried on in the Northwest, the work of the surveyor offers a field of great opportunity. These courses are arranged for the following groups of men:

1. The axman or chainman who is ambitious to qualify for higher grades of work, such as transitman or levelman.

2. The draftsman who wishes to qualify for field work or the field man who wishes to become a draftsman.

3. The young man who expects to make surveying his life work but who cannot afford the time and money necessary for a college course in engineering.

4. The man of considerable practical experience but who needs special help in mathematics.

REINFORCED CONCRETE CONSTRUCTION.

A course in reinforced concrete construction is given for engineers who have special problems, and for men desiring a systematic and constructive course. This work is given by instructors who are familiar with the latest and best approved methods of work.

MINING AND ASSAYING.

A special laboratory equipped with furnace, reduction machinery and a large assortment of minerals is provided for the Mining and Assaying class. The course will treat of geology pertaining to gold, silver, copper, lead, tin, zinc, coal, asphalt, clays and petroleum, identification, prospecting, qualitative and determinative, identification assaying, wet and furnace, recovery of mineral values and other practical mining processes.

First Aid to the Injured. The object of this course is to give practical information for use in cases of accident or sudden illness. Special study is made of treatment and immediate relief in cases of bleeding, broken bones, poisoning, fainting, choking, sprains, wounds; transportation of the wounded, bandaging and nursing. This is a course outlined by the International Committee of the Y. M. C. A. and American Red Cross Society.

Vocal Music. A general course is offered in Vocal Music for men with or without musical knowledge. The purpose of this course is to give the rudiments of music, including the conception of time, tune and rhythm, and to enable the student to read musical notation and sing correctly. The class work consists of exercises and scales and note reading, individual and chorus singing. Every effort is made to make this work both interesting and enjoyable.

Piano, Violin and Cornet. Instruction is given by prominent artists at the Association School at definite hours arranged to suit the student at the rate of thirteen lessons for $10.00.

LECTURE COURSES.

Monday and Saturday evenings are devoted to popular lecture courses, to which both men and women are admitted. These courses are given by men who have specialized in particular industries and in subjects of scientific investigation.

They include for the season of 1914-1915 courses in Modern Literature; Apple, Walnut and Prune Culture; Gardening, Poultry Raising; Art, Music, Travel, the World's Industries and Local and National Political Issues.

The public is admitted to a large part of these lectures without fee or membership requirements.

It is the purpose of the Association through lectures and other organized work to promote the cause of popular education in every way possible.

In these efforts the Association is much indebted to the hearty co-operation of educators of the Northwest and the liberal patronage of the citizens of Portland.

PRE-LAW COURSE.

Rule No. 36 of the Supreme Court of the State of Oregon, relating to admission to the Bar, requires that each applicant for admission shall present a certificate showing that he is a graduate of some college, high school or other literary institution of approved standing. This certificate must be signed by the head of such institution. In the event that the applicant is not a graduate of any such institution, he shall he required to pass such examination covering his academic and literary training as said Board under the direction of the Court shall prescribe, said requirements to equal in scope the requirements of a four years' course in an approved high school.

To meet these requirements, special classes covering the work indicated have been organized in our College Preparatory School. These classes are available either day or evening. The rates for tuition are the same as those charged for college preparatory work.

PRE-MEDICAL COURSE.

Advanced courses in chemistry, physics, biology, German and French have been added covering the admission requirements of the Department of Medicine of the University of Oregon. These courses are especially recommended to students who have conditions to make up, or who desire instruction in any subject indicated. The rates for tuition will depend on the amount of individual instruction required.

Night Class Schedule

CLASS	DAY	HOURS	3 Mos.	6 Mos.	8 Mos.
Accounting (3 yrs.) 1st year	Tuesday-Thursday	7:30-9:30	Com. Course		$150.00
Accounting (3 yrs.) 2nd year	Monday-Wednesday	7:30-9:30	Com. Course		150.00
Accounting (3 yrs.) 3rd year	Tuesday-Friday	7:30-9:30	Com. Course		150.00
Advertising (Course)	Wednesday	7:30-9:30		$20.00	
Algebra	Tuesday-Friday	7:30-9:30	$5.00	8.00	10.00
Assaying (Course)	Tuesday-Friday	7:30-9:30	30.00		
Architectural Drafting—Ele.	Tuesday-Friday	7:30-9:30	10.00	16.00	20.00
" " Adv.	Tuesday-Friday	7:30-9:30	10.00	16.00	20.00
Arithmetic—Ele.	Tuesday-Friday	7:30-9:30	5.00	8.00	10.00
" Adv.	Tuesday-Friday	7:30-9:30	5.00	8.00	10.00
" Commercial	Monday-Thursday	9:00-9:30	3.00	5.00	6.00
Automobile—C'mplete Course	Day or Evening			61.00	
Automobile (No Driving)	Day or Evening			45.00	
Bible Study	Wednesday	7:00-8:00			
Bookkeeping	Monday-Thursday	7:30-9:30	7.00	12.00	15.00
Boys' School	Mon.-Wed.-Thurs.	7:30-9:00	5.00	8.00	10.00
Business Letter Writing	Tuesday	7:30-8:30	3.00	5.00	6.00
Business Law	Tuesday	8:30-9:30	3.00	5.00	6.00
Carpentry and Woodturning	Wednesday-Friday	7:30-9:30	10.00	15.00	20.00
Calculus	Tuesday-Friday	7:30-9:30	5.00	8.00	10.00
Chemistry	Monday-Thursday	7:30-9:30	10.00	18.00	22.00
Civil Service	See Director				
Cost Engineering (Course)	Wednesday	7:30-9:30		20.00	
Electricity—Ele.	Monday-Thursday	7:30-9:30	15.00	25.00	30.00
Electricity—Adv.	Monday-Wednesday	7:30-9:30	15.00	25.00	30.00
English for Foreign Men—El.	Mon.-Tues.-Thurs. Friday	7:30-9:30	6.00	10.00	14.00
" " " " Adv.	" "	7:30-9:30	6.00	10.00	14.00
Eng. Grammar and Reading	Monday-Thursday	7:30-9:30	5.00	8.00	10.00
Eng. Grammar and Rhetoric	Monday-Thursday	7:30-8:30	5.00	8.00	10.00
English Literature	Monday-Thursday	7:30-9:30	5.00	8.00	10.00
Freehand Drawing	Monday-Thursday	7:30-9:30	10.00	16.00	20.00
French	Monday-Thursday	8:30-9:30	7.00	12.00	15.00
Geometry	Monday-Thursday	7:30-9:30	5.00	8.00	10.00
German (1)	Tuesday-Friday	7:30-8:30	7.00	12.00	15.00
German (2)	Tuesday-Friday	8:30-9:30	7.00	12.00	15.00
History	Wednesday	7:30-9:30	5.00	8.00	10.00
Latin	Tuesday-Friday	7:30-9:30	7.00	12.00	15.00
Machine Design	Monday-Thursday	7:30-9:30	10.00	16.00	20.00
Mechanical Drafting—Ele.	Monday-Thursday	7:30-9:30	10.00	16.00	20.00
Mechanical Drafting—Adv.	Monday-Thursday	7:30-9:30	10.00	16.00	20.00
Penmanship (1)	Tuesday-Friday	7:30-8:30	5.00	7.00	8.00
Penmanship (2)	Tuesday-Friday	8:30-9:30	5.00	7.00	8.00
Pharmacy (1st term)	Tuesday-Friday	7:30-9:30		30.00	
Pharmacy (2nd term)	Monday-Thursday	7:30-9:30		30.00	
Pharmacy (3rd term)	Monday-Wednesday	7:30-9:30		30.00	
Physical and Com. Geography	See Director				
Physics	Tuesday-Friday	7:30-9:30	10.00	15.00	18.00
Plan Reading and Estimating (Course)	Wednesday	7:30-9:30		20.00	
Public Speaking—Ele.	Tuesday	7:30-9:30		15.00	
Public Speaking—Adv.	Monday	8:00-9:30		25.00	
Reinforced Concrete Const.	Tuesday	8:00-9:30	15.00	25.00	
Salesmanship (Course)	Friday	7:30-9:30		25.00	
Spanish	Monday-Thursday	7:30-8:30	7.00	12.00	15.00
Shorthand	Mon.-Wed.-Fri.	7:30-9:30	7.00	12.00	15.00
Surveying and Mapping	Tuesday	6:30-8:30	15.00	25.00	
Show Card Writing	Tuesday-Friday	7:30-9:30	15.00	25.00	30.00
Telegraphy and Dispatching	Tuesday-Friday	7:30-9:30	15.00	25.00	30.00
Transportation	Wednesday	7:30-9:30		25.00	

Night Class Schedule—*Continued*

CLASS	DAY	HOURS	3 Mos.	6 Mos.	8 Mos.
Trigonometry	Monday-Thursday	7:30-9:30	5.00	8.00	10.00
Typewriting	Mon.-Wed.-Fri.	7:30-9:30	7.00	12.00	15.00
Vocal Music	Wednesday	7:30-9:30	3.00	5.00	7.00
Wireless Telegraphy (Course)	Monday-Tuesday				
	Wednesday-Thurs.	7:30-9:30			50.00

Discounts: 2 subjects 5%
3 subjects 10%
4 subjects 15%

In addition to above 5% is allowed for full cash payment.

GROUP COURSES—Night.

ENGLISH COURSE FOR MEN 4 nights a week	ENGLISH COURSE FOR BOYS 3 nights a week	BUSINESS COURSE 3 to 4 nights a week	SHORTHAND COURSE 3 to 4 nights a week
Grammar	Grammar	Bookkeeping	Shorthand
Composition	Composition	Commercial Law	Typewriting
Reading	Reading	Letter Writing	Letter Writing
Spelling	Spelling	Penmanship	Penmanship
Arithmetic	Arithmetic	Arithmetic	Commercial Law
Penmanship	U. S. History	Spelling	Spelling
3 month term $10.00	3 month term $5.00	3 month term $12.00	3 month term $12.00
6 " " 12.00	6 " " 8.00	6 " " 19.00	6 " " 19.00
8 " " 18.00	8 " " 10.00	8 " " 24.00	8 " " 24.00
10 " " 20.00		10 " " 26.00	10 " " 26.00

FEES FOR DAY SCHOOLS.

DEPARTMENT	1 Mo.	3 Mos.	6 Mos.	9 Mos.	12 Mos.
College Preparatory	$10.00	$28.00	$50.00	$65.00	$75.00
Business, Shorthand or Combined	10.00	28.00	50.00	55.00	75.00
Electrical	10.00	28.00	50.00	65.00	75.00
Boys' School	7.00	18.00	28.00	38.00	45.00
General English School (Men)	7.00	18.00	28.00	38.00	45.00

PRIVATE SECRETARY'S COURSE.

30 months .....$165.00 18 months $120.00
24 months .....$145.00 15 months $105.00

Add $1.00 per month to the above prices if not an Association member and if 18 years of age or over. If less than 18 years of age the membership fee is $5.00 per year for full membership.